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There are Audits, and There are Audits: Response of New Zealand Kiwifruit Orchardists to the Implementation of Supermarket Initiated Audit Schemes

Report on ARGOS' second qualitative interview

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Executive Summary

New Zealand's kiwifruit industry is strongly focused on its commitments to producing a high quality product that meets the increasing demands of its main export markets. This report examines the recent introduction of two programmes designed to meet this goal – a retailer-driven audit scheme (EurepGAP) and a fruit quality incentive plan (Taste ZESPRI) – from the perspective of the ARGOS research framework that seeks to assess and enhance the social, economic and environmental sustainability of the sector. The report draws insight from the response of the 36 orcharding households (with equal representation of Hayward, organic Hayward, and Hort 16A management systems) participating in the ARGOS project. Each of the households was involved in a semi-structured, qualitative interview designed to elicit their understandings of and response to constraints on orcharding practice. This report focuses specifically on those constraints associated with participation in the kiwifruit industry, of which EurepGAP and Taste Zespri were most frequently identified. Comparison of the orchardists' responses to each programme provides insight to the use of such tools in order to promote both fruit qualities as well as socially and environmentally responsible orchard management.

Response to the two programmes varied among the orchardists depending in part on the extent to which either conformed to existing understandings of good orchard management. (It is noteworthy that the choice of management system did not explain this variation.)

- Despite existing regulation of management practice under the KiwiGreen monitoring programme, a number of orchardists perceived the EurepGAP audit as a severe imposition on their identity as orchardists. Several features of the audit contributed to this perception:
 1. The view that the EurepGAP audit is an externally imposed assessment of good orchard management;
 2. The lack of significant alteration of management practice relative to that undertaken to meet existing KiwiGreen auditing;
 3. The excessive detail of the audit, often involving items or practices for which the orchardists saw no clear association with improved outcomes;
 4. The shift in focus for the assessment of a good orchardist from the practices 'in the orchard' to those 'in the office';
 5. An apparent lack of reward associated with compliance (especially the case as kiwifruit prices have not increased compared to pre-EurepGAP prices)
- By comparison, the Taste ZESPRI programme elicits very distinct responses from the orchardists – some of them viewing the production of dry matter as a challenge worthy of their skill and ability whereas others believed that it was unfair to base payment incentives on a feature of the fruit that lacked a well defined set of practices with which to achieve it. General acceptance of Taste ZESPRI appears to be enhanced by the reward of the price incentive (although some orchardists viewed this as a penalty) and the direct association between dry matter and fruit quality.
- Analysis of orchardist response to the introduction of EurepGAP and Taste ZESPRI indicates several characteristics which would contribute to similar attempts to promote higher quality kiwifruit, including:
 1. The promoted practices must either conform to existing perceptions of good farming among orchardists, or be justified as contributing to desired outcomes (e.g., higher quality fruit, globally recognised best practice, etc.).
 2. The outcomes of the practices should be evident and provide an achievable means of benchmarking good practice (e.g., reward structures, recognition of the superiority of New Zealand kiwifruit, etc.)

It is also evident from the interviews that any new programme, no matter its positive features, is subject to some dissatisfaction and will likely require a period of time before it becomes a fully normalised feature of good orcharding practice.

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1 Introduction

The underlying focus of the ARGOS project involves a transdisciplinary examination of the condition of sustainable agriculture in New Zealand (including environmental, economic and social aspects). In order to achieve an explanation that is relevant to existing conditions of production in New Zealand, the comparative assessment of the sustainability or resilience of designated management panels in three sectors (Dairy, Kiwifruit and Sheep/Beef) forms the basis of this examination. These panels are comprised of farmers engaging conventional and organic methods for dairy, integrated pest management (IPM) and organic methods for kiwifruit, and conventional, integrated and organic methods for sheep/beef production. The membership of an individual farmer in a designated panel is defined by her or his compliance (or lack thereof) with existing market audit schemes which – to varying degrees – regulate farm management practice. Any differences in the assessed ecological, economic and social features of the participating farms attributable to the distinct nature of practices associated with each panel provide the basis to assess the relative sustainability of each system and its characteristic management practices.

In this report, we continue the examination of the effects of broader social relations on the capacity of participating farmers to select among management options begun in an earlier report on the sheep/beef sector (see Rosin, et al., 2007). We also reiterate the significance of such social relations, especially as they relate to the efforts of ARGOS to either promote or encourage practices or conditions which contribute to the resilience and sustainability of New Zealand agriculture. As such, the report provides insight to the constraints and opportunities (especially those that emerge as a result of relationships associated with the production and sourcing of kiwifruit) identified by orchardists as affecting management practice in the sector. To a large extent, the relationship between orchardists, packhouses and ZESPRI International Ltd (the single desk export firm for New Zealand kiwifruit) is influenced by audit schemes (which establish the parameters of appropriate practice in the orchards) and the evolving system of payment schedules and incentives (which reward orchardists who are able to produce desired fruit qualities). The audit schemes, in particular, are intended to promote more beneficial (and purportedly sustainable) environmental and social impacts. Payment policies – specifically dry matter incentives – emphasise fruit qualities that contribute to the fruit's retail potential, but do not explicitly address the impact of associated best practices at the point of production.

Earlier work in ARGOS (see especially, Hunt et al., 2005; Fairweather et al., 2007) has identified some important differences among orchardists in the Kiwifruit sector panels.¹ The initial qualitative interviews conducted with each participant suggested that Organic orchardists are more likely to emphasise their responsibility to care for the environment in general (as opposed to the specific environment of the orchard); Gold orchardists tend to emphasise financial aspects of management; and Green orchardists are least likely to perceive a need to alter management practices. These differences suggest that the capacity for members of each panel to adapt to the more detailed auditing regime of EurepGAP² or to successfully respond to the payment policies rewarding higher dry matter levels in fruit may be influenced by the management practices they currently employ. The data collected in the first qualitative interview was not appropriate, however, to enable definitive commentary on factors lying outside the farm gate which affected the individual's response to emerging demands on orchard management.

¹ These panels correspond to the management systems analysed in the kiwifruit sector namely: Organic (organic certified Hayward, not including organic Hort16a production); Green (IPM Hayward); and Gold (IPM Hort16a).

² EurepGAP is the set of audited practices (**Good Agricultural Practice**) established by the **Euro-Retailer Produce Working Group** (Eurep) in negotiation with industry participants (including ZESPRI for the kiwifruit standards). The audit scheme controls access of horticultural products into the sourcing systems for 31 of Europe's largest supermarket chains.

The second round of interviews was designed specifically to broaden our understandings of the kiwifruit sector developed through the analysis of the earlier interviews. As such, the data analysed for this report derives from interviews with a concerted emphasis on the constraints and opportunities that participants recognised in their situations. Our focus remains on orchard-level perspectives, but the latter interviews explore the factors perceived to either limit or enable the actions and practices of participants. As such, the orchardists' explanations illuminate aspects of their relationships with the packhouses and with ZESPRI that affect their response to various means of encouraging change in orchard management. These elements of the interviews facilitate an elaboration of conditions in the kiwifruit sector which derive from the orchardists' understandings of the role and activities of other participants in the New Zealand kiwifruit industry. We are also able to formulate conclusions regarding the relative potential of audit schemes and production incentives to operate as mechanisms for positive change toward or reinforcement of more sustainable farm management practice.

The presentation in the report begins with a brief description of the interview as a product of the social objective and its contribution to the ARGOS project. This is followed by an abbreviated discussion of existing understandings of the social dynamics associated with the emergence of audit schemes in agrifood systems.³ Having established a context for the second set of interviews, we develop an examination of farmers' representations of past changes in the sector, especially as associated with the establishment of the KiwiGreen monitoring system as an element of ZESPRI's Crop Protection Programme. This short introduction to a 'successful' audit scheme allows for comparison with the contested response to more recent attempts to influence orchard management. We base this comparison in an analysis of orchardists' understandings of and response to the more recent imposition of the EurepGAP audit and the increasing emphasis on dry matter levels as a quality distinction for their fruit. Reflecting on our discussions with kiwifruit orchardists, we draw conclusions regarding the capacity of the kiwifruit industry to promote conventions of production that facilitate the adoption of regulations which, while apparently integral to successful marketing, impinge upon the identities of Organic, Green and Gold orchardists.

³ These two sections are shortened versions of the discussions found in Rosin, et al. (2007). The report on the sheep/beef sector also contains a substantially longer bibliography and review of the social science literature on audit schemes in agri-food systems.

2 Structure and approach of interview

The qualitative interviews analysed for this report form part of a broader set of social research methods (both qualitative and quantitative) employed within the ARGOS project. Data related to social characteristics of the participating farmers have also been gathered by means of more structured activities such as causal mapping (see Fairweather, et al. 2007) and attitudinal and management surveys. The combination of methods, by allowing for a triangulation of responses from each activity, contributes to both the breadth of data available as well as the depth of understanding achieved in the analysis. The second qualitative interviews conducted with the 36 kiwifruit orchardists in the ARGOS programme⁴ focused on factors that affected orchard management either by constraining or enhancing an orchardist's capacity to act. Potential constraints were grouped such that the interview included specific queries of: a) biophysical factors – such as climate, soils, and topography; b) government policy – both environmental and more generally; c) family and community attitudes toward farming practice; d) influence of the industry actors associated with each sector – including perceptions of the various audit schemes; e) access to inputs – including labour, soil fertility and pest control products, and capital; and f) the knowledge and skill acquisition process. Several of these factors – e.g., biophysical, policy and input constraints – were not considered by the participants to have a significant impact on an orchardists' capacity to act. As a result, this report concentrates on the constraints that orchardists associated with their participation in the kiwifruit sector, especially as the result of interactions with ZESPRI and the packhouses.⁵

The role of industry as a principal actor in the relationship between orchardists and distant consuming markets in the production chain is of particular importance to New Zealand kiwifruit producers.⁶ Because the country's kiwifruit are predominantly an export commodity, orchardists have limited opportunity to engage with consumers – let alone to comprehend the desires and concerns about fruit qualities expressed in foreign markets. Thus, the orchardists rely on industry to promote their own interests and to communicate the demands of retailers and consumers as locally relevant initiatives. We argue that the latter activity enables industry to influence the accepted understandings of 'good farming' in the sector by means of applying reward structures to the product purchased, regulating aspects of management practice and committing to the imposition of audit schemes. These practices can either reinforce existing behaviours or establish new criteria for assessing practice. Thus, by establishing minimum standards of on-farm practice and fruit quality, ZESPRI plays an active role in establishing shared parameters of the possible and impossible, the thinkable and unthinkable in New Zealand kiwifruit production.

While the intent of the report is to illuminate features of the kiwifruit industry's influence on orchard management, our analysis is limited to the farmers' perspectives and does not include the attitudes and actions of industry representatives. As a result, our discussion focuses on both the orchardists' emerging sense of good management – including its challenges, its rewards, its sustainability – as well as their interpretation and assessment of the industry's actions in this regard. Data for our analysis were found in specific parts of the interviews in which orchardists were asked: a) to identify any constraints they faced or benefits they realised as a result of their participation in the kiwifruit sector with more specific queries regarding the nature of EurepGAP or organic compliance; b) to list the impact of

⁴ They were conducted at the homes or orchards of each participant between October and November 2005. Each interview lasted 60 to 80 minutes.

⁵ Aspects of constraints related to biophysical factors, access to inputs, government policy and community attitudes, while queried in the interviews, are not addressed in full here. These will eventually be the subject of shorter ARGOS Notes.

⁶ Note that similar reports are being produced for the New Zealand dairy and sheep/beef industries and will be accessible on the ARGOS website (www.argos.org.nz).

these programmes on farm management practice; and c) to elaborate their perceptions of the relative value and costs of compliance. Of particular interest to our analysis is ZESPRI's implementation of the EurepGAP audit scheme as a strongly recommended standard for on-orchard management practice. The distinct responses of orchardists to the demands of EurepGAP compliance highlight both differences among them as well as the potential use of audit schemes to promote more sustainable practice. This response is then compared to that of the orchardists to the payment policies involving dry matter levels in the fruit as an alternative means of promoting change in orchard management.

In our examination of the interview data, we assess the orchardists' discussions as indicative of their attempts to make sense of the current conditions of production in the kiwifruit sector. The orchardists in the ARGOS programme uniformly emphasise their desire to maintain – or even improve – the economic and ecological viability of their properties. They are also very cognisant of the structures associated with the nature of the sector in which they participate and that establish the parameters of action and inaction they must navigate. These structures, and the management practices to which they contribute, strongly influence an individual household's willingness to comply with the audit practices associated with EurepGAP and organic markets. Whereas many participants are able to rationalise the efforts required by the audit procedures, others voiced challenges to the valuation and rewards⁷ the audits establish. In order to extend our understanding of the farmers' responses to audit schemes currently operating in the New Zealand kiwifruit sector, the following report examines the extent to which two significant alterations in the kiwifruit commodity chain (first, the development of the KiwiGreen production system and label during the 1990s and, second, the current strengthening of audit schemes in the form of EurepGAP) have been incorporated within the shared perceptions of 'good farming' held by farmers in each of the ARGOS panels. First, however, we discuss current theorisations and analyses of audit schemes within the social science literature.

⁷ It is important to note that, as used here, these can involve both monetary and non-monetary (e.g., social standing, community recognition, self-justification) rewards.

3 Audit schemes in global perspective

In our companion report on the sheep/beef sector, we elaborated the basis for our interests in audit schemes as a feature of the emerging global agri-food system (Rosin, et al. 2007). Of particular relevance to the ARGOS project is the capacity for audit schemes to establish a readily identified and easy reference for 'good practice'. As such, they have the potential to operate as tools that simultaneously encourage more sustainable practice and establish the quality criteria for accessing higher value markets. Because parameters of 'good practice' imposed by audits are not necessarily shared by all actors in a production chain, however, audit schemes may also stimulate contentious negotiation of their acceptability and value. In the sheep/beef report we examined several dimensions of such negotiation including that of power differentials among actors (political economic approaches) and the justifications that farmers or orchardists bring to bear when contesting (what are perceived as) unfounded impositions on their conception of 'good farming'. We also argued that the emergence of audit schemes is associated with growing consumer concerns with the safety and quality (including features that were intangible in the final product) of the food they purchase. As such, the audit schemes operate as a means of reconstructing the communication of trust between agricultural producers and consumers that has deteriorated with increasing distance between the sites of production and consumption.

The historical role of audit schemes in the New Zealand agricultural sector can be observed beginning with early efforts of organic certification and eventually including industry initiated and then private label standards of quality. The ability to attach quality designations to agri-food products is especially important given the sector's export orientation. As consumers in higher value markets increasingly express concerns regarding the social and environmental impacts of the food they purchase, producers will come under greater pressure to document their management practices. Audit schemes are considered an appropriate means by which to reduce the insecurities associated with the procurement of agri-food products and thereby providing benefits to the consumption end of production chains. The imposition of audit enforced regulation of practice – generally perceived as an external initiative – also has the potential, however, to initiate tensions at the production end. As such, they often populate producers' lists of constraints to management practice.

This report provides further examination of the process through which audit schemes are incorporated within and influence the character of orchard management in the kiwifruit sector. The effect of audit schemes is determined in part through comparison of current conditions of change with the circumstances surrounding past, apparently successful, adjustments to market driven changes in the sector. Reviewing historical adjustments facilitates the identification of existing understandings of consumer/retailer driven markets. These understandings can then inform our examination of farmers' response to the imposition of audit schemes as a feature of such markets. Finally, based on the resulting comparisons we draw conclusions regarding the potential to employ audit schemes as a means of implementing more sustainable management practices.

4 Orchardists, the New Zealand kiwifruit Industry and global markets

In a manner similar to that of their counterparts in the sheep/beef sector, kiwifruit orchardists readily acknowledge their isolation from the consumer of their final product. As such, they rely on ZESPRI to both market their product and provide feedback on the demands and expectations of the markets to which they sell. The importance of this latter role is evident in ZESPRI's communications with orchardists in which market conditions, criteria for sale and the state of the competition have substantial roles. Because of the persistent flow of such information, the orchardists generally claim a greater awareness of their role in global markets than did the sheep/beef farmers. In fact, several of the orchardists comment on their observations of the condition of ZESPRI fruit being sold in markets they visited while travelling abroad. They do, nonetheless, express both a similar reliance on industry representatives to negotiate their position (albeit with a growing sense of alienation, see below) and a recognition of their relative impotence as actors in the export-oriented market. From the perspective of the orchardists, the regulation of their management practice and the quality demands placed on their product are increasingly imposed by bureaucrats with minimal practical knowledge of orchard management. The former standards are generally perceived to involve little beyond the increasing tedium of documentation; whereas the latter are considered appropriate to the extent that they reflect conditions subject to the orchardists' control. The existing critical perspectives on audit schemes and quality standards articulated by some of the ARGOS orchardists has been strongly influenced by their earlier, and arguably very successful, experience with the KiwiGreen programme.

4.1 KiwiGreen and the re-vitalisation of the New Zealand kiwifruit sector

The New Zealand kiwifruit sector provides evidence of an early and successful adoption of an audit scheme. The narrative of this success is well-established in the literature (see, for example, Campbell, et al. 1997). In response to global competition and low market prices in the 1990s, the New Zealand Kiwifruit Marketing Board initiated the KiwiGreen programme based on concepts from Integrated Pest Management. The mandatory restrictions on the usage and timing of chemical sprays in the programme enabled New Zealand kiwifruit to be distinguished on the basis of production practice and resulting end product qualities – specifically, the lack of chemical residues. Largely as a result of this initiative, the New Zealand kiwifruit sector experienced a strong market resurgence, making it one of the more profitable agricultural sectors in the country. This series of circumstances facilitated the implementation of what was, essentially, an extreme imposition on the orchardists' freedom to act (in regard to orchard management and chemical pest control) as well as a direct challenge to accepted parameters of best practice. Within a year, however, most orchardists were convinced of the potential of the programme, due in large part to relatively healthy vines and fruit and increased market returns. In fact, some of the orchardists openly ridicule the thought process behind the earlier reliance on spraying schedules. (The text boxes included in this report provide illustrative citations found in interviews with the orchardists participating in the ARGOS project that are associated with this and other statements.)

From the perspective of those orchardists still participating in the sector,⁸ KiwiGreen is a positive response bred of a local initiative at a critical period. The extent to which the programme has entered into contemporary understandings of 'good farming' is evident in the discussions with ARGOS orchardists in both the first and second qualitative interviews.

⁸ It is important to note at this juncture that any assessments of the KiwiGreen programme drawn from the ARGOS interviews will not represent the perspective of orchardists who decided not to comply with its regulations and are, as a result, no longer producing kiwifruit for export.

Because of its potential to raise awareness of both alternatives to chemical sprays and the limited need of pest control, organic orchardists will commonly view the KiwiGreen programme as a positive step toward the more universal acceptance of organic practice in the sector. These comments indicate the extent to which the KiwiGreen programme has inspired a change in the orchardists' sense of appropriate use of sprays in kiwifruit production. Based on the interviews, it appears that this resulting perspective is generally accepted within the sector, although the data available do not account for the response of the orchardists who left the sector during this period.

In addition to initiating changes in orchard management practice, the KiwiGreen programme has influenced both the orchardists' relationships with the kiwifruit industry and their identity as resource managers. For example, the improvement in economic returns associated with the programme contributed to a positive working relationship between the orchardists and the industry (the New Zealand Kiwifruit Marketing Board, now ZESPRI). As such, the industry was perceived to be a champion of the orchardists' position within the production system – a role that has more recently proved difficult to maintain as discussed below. The orchardists are also quick to identify environmental benefits that they attribute to the programme and express a strong sense of pride in this positive outcome. In most cases, the orchardists will refer to their reduced reliance on chemical sprays as noted above. Others, however, also attribute a marked increase in the biodiversity (including spiders, beneficial insects and birds) that occupies their orchards to their adoption of KiwiGreen regulations. Finally, the orchardists indicate that their participation in KiwiGreen has raised their awareness of the direct impact of sprays on their own and their family's health as well as that of spray drift on their neighbours. The act of notifying anyone who lives near their orchard when they spray has become an integral part of their definition of 'good farming'. These features of the orcharding identity indicate that – especially in comparison to farmers in the sheep/beef sector – the kiwifruit orchardists have developed a broader perspective of their role as 'good farmers' that encompasses more than the immediate effects of their practice on the target output of their management systems.

Yeah [accepting KiwiGreen spraying restrictions] was difficult actually. Couldn't sleep too well at night. You were putting on so little spray, you expected the orchards to be crawling with leaf roller and scale and ... it took a little while to come to grips with it.

Green

Son: [It's] probably a lot easier for us than some of the people who were used to being allowed to spray every three weeks and kill everything in the orchard. I can imagine some of them were quite scared about it. Suddenly you were only allowed to use these soft sprays and only when you ... see something was there.

Father: Yeah, it has gone past the twentieth day now. Put a spray on.

Son: Could be a leaf roller out there. [laughter]

Gold

You could probably say that Kiwigreen growers ... use [it] as a stepping stone to organics ... because at that stage [13 years ago] I was reluctant to change to organics because we didn't have access to the sprays that we have today.

Organic

I think what [the Kiwifruit Marketing Board] did was brilliant. That was the best thing we did ... to really show the overseas customers that we are monitoring what we're doing here. We're not just sending anything over. Yeah, that KiwiGreen was one of the best things we did.

Gold

Probably the biggest thing, when KiwiGreen started up, we noticed spider webs. Spiders [had] come back into the orchards. And birds. Cause that before that there was three weekly spraying of hard sprays, and you didn't see spiders. Ladybird [beetles]. Yes, you are seeing more. That's not recent times, but since '92 ...

Gold

Together these responses demonstrate the extent to which the KiwiGreen programme has become an accepted feature of kiwifruit orchard management. The orchardists who were interviewed all recognised positive aspects of the programme that, at its basis, impinged on their freedom to employ chosen management practices and subjected them to oversight essentially by means of an audit of spray applications. Their positive engagement with the programme suggests that a more secure and profitable market, the ability to claim reduced environmental impacts and to inhabit a more responsible position in their local communities provide sufficient reinforcement of their valued position as orchardists to compensate for any constraints on their capacity to act. In addition, the uniform application of KiwiGreen to the New Zealand industry and the subsequent justification of the relative quality of its product substantially raised the status of the orchardists in both national and international assessments of good practice, a factor that further reinforces the positive identity of kiwifruit orcharding.

4.2 Reaction to EurepGAP audit scheme

In comparison to the apparent universal acceptance of the KiwiGreen audit scheme, the response of orchardists to EurepGAP is demonstrably more contentious.⁹ Few orchardists indicated a similar level of support for the newer audit scheme as that which they maintained for KiwiGreen. The strongest proponents of EurepGAP claimed that it had increased their awareness of and provided greater control over less strictly regulated aspects of their management practices already covered in KiwiGreen. Others were able to rationalise their compliance based on their understanding of the conditions of participation in the kiwifruit market. They believed they were obliged to document practices that were of concern to those who consumed their product. The interviews, however, provided equivalent evidence of a group of orchardists who strongly questioned the value of the newer audit. This latter group was unable to justify the demands that audit compliance placed on their time, especially to the extent that they were forced to sit in the office. A further, relatively small, set of orchardists perceived the audit as an imposition on their identity as farmers, depriving them of their social status – that is, the generally accepted trust that they would do well by the land and produce high quality, safe products. In the following sections we elaborate on the orchardists' representations of EurepGAP, arguing that the increased oversight implied within the audit practice has initiated an alteration of the underlying understandings of their identities as orchardists (or, in other words, orchardist subjectivities).

4.2.1 Impact on practice

One of the principle means by which the orchardists assessed the value of the EurepGAP audit involved their interpretations of its impact on orchard management practices. The most frequently noted changes in management included compliance with requirements for toilet facilities and safety equipment for orchard labour, increased signage indicating the potential

⁹ Arguably, this is as much the result of our perspective, which assessed the orchardists' response during the initial two years of EurepGAP auditing. Thus, relative to the retrospective view on KiwiGreen, the response to the latter scheme has had little time to 'mellow' as the participants become accustomed to its rigours and demands on practice. We therefore provide our examination of the impact of EurepGAP as one of a *process* that is expected to evolve in light of both the affirmation of the audit experienced at the retail end of the commodity chain and the challenges posited in the interviews we conducted.

dangers on the orchard and greater awareness (and tightening) of existing good practice. For the most part, the orchardists listing such benefits suggested that the increased regulation of practice has raised the level of safety on the orchards by both reinforcing and extending the regulations introduced by the KiwiGreen programme. The increase in signage on the orchards is not uniformly considered a benefit, however, as some organic orchardists believe the identification of dangers contradicts the safer image of organic production methods. More generally, orchardists often indicated that compliance increased the costs of production as a result of these requirements. The latter comments reflect the fact that it is more common for the participants to claim that the EurepGAP audit scheme failed to introduce changes – other than in the extent and detail of the regulations – to the practices controlled by KiwiGreen.

One of the things [about] EUREP-GAP that caught my attention was making sure the staff that come on the orchard are told where the toilet is ... and we had to put hand washing signs up and that sort of thing... and a health and safety manual...

Organic

It has possibly made growers more aware and thinking about what they are putting on their orchard in the way of chemicals and things like that ... Whereas a few years ago they would go down and buy ... half a dozen of those containers and end up only using three of them. And next year they would not know whether to use it or not and they would not take the risk so they go and get some more ... EurepGAP has cleaned up all that and that is a really positive thing that has happened.

Green

4.2.2 Acceptance of EurepGAP audit

More unequivocal acceptance of the EurepGAP audit scheme is demonstrated among those orchardists who associate it with the ability of their fruit to access and compete in high value markets. Such orchardists share the general belief in the high quality of New Zealand kiwifruit. They are more likely to acknowledge, however, the gains in quality achieved by international competitors such as Chile and, as a result, perceive a need to reinforce their advantage by means of stricter standards. The orchardists maintaining this perspective also commonly express greater confidence in ZESPRI as their representative in the international marketplace. As such, this group appears to have incorporated conventional understandings of the operation of agri-food markets promoted by representatives of the New Zealand government and in ZESPRI communications.

Despite their ability to justify the merits of the EurepGAP audits, most of these orchardists still associate compliance with serious impositions on their established management routines. As with other orchardists, this potentially involved committing additional personal time to office oriented work. For the most part, however, the orchardists in this group have devised means to cope with such demands. Among the adaptations identified in the interviews, it was common for orchardists to shift responsibility for the actual paperwork to others, including both within the farm household or hired labour. Their ability to negotiate the less desirable aspects of compliance with the audit scheme contributed to their acceptance of the practice. More generally, however, the apparent need to mitigate such requirements demonstrates the extent to which they are viewed as an imposition on the expectations attached to 'normal' orchard management.

... [EurepGAP] is good because we've got to keep our product at a high standard. We're getting far more competition. The Chilean fruit has become - they used to not be such a big competition - but they're getting

right up there. Their standards are growing too.

Organic

I let my sister organise all the EurepGAP. I've given it all to her and my brother-in-law. I think some of the regulations are a bit pedantic.

So the orchards sort of get worked as a family. And does that work fairly well?

Yes, it does. Yep. I choose all the best jobs.

Green

4.2.3 Questioning the need

Many of the orchardists participating in the ARGOS project have difficulty justifying the additional work associated with the EurepGAP audit. Within this group of orchardists, the common irritant involves the perception that compliance with the audit results in little more than additional work for the orchardists without a recognised reward. Often, the audit is viewed as being incompatible with the reality of orchard management – largely due to its design and implementation in the hands of bureaucrats as opposed to kiwifruit orchardists. Thus, they will often express their incredulity in regard to the value or meaning of particular elements of the audit (e.g., tractor maintenance). Similarly, audited features that involve compliance with existing New Zealand labour regulations are considered superfluous and inattentive of the local context. Some orchardists expect that, due to the rigours imposed by the audit, ZESPRI should be able to demand (and document to the orchardists) higher prices compared to non-compliant exporters.¹⁰ In addition to inattentive and naïve bureaucrats, many orchardists direct their ire at the paperwork involved in documenting their compliance. For some of the orchardists, paperwork is the least enjoyable aspect of orchard management and, as such, the audit schemes present a significant obstruction to their enjoyment of the practice. The most extreme expression of this position is voiced by orchardists who suggest that the increasing detail of the new audit implies that they are no longer considered to be responsible practitioners and that they are little more than idiots requiring excessive guidance.

[They] make rules because one or two do something stupid and everyone else pays for it. Everyone gets on the band wagon and creates these screeds and screeds of stuff and makes it necessary to do this and that and attend educational courses and all the rest of it which is more cost to the growers as well. I actually have reached a stage where I have had enough of bureaucracy and as soon as orchard prices come back up then I'll sell.

Organic

Son: I literally, I hate it [paperwork]. I really ... I just [hate] having to go through it every year.

Father: The language is difficult as well. If they used common language that we could understand. And I think in the latest format, when they came out in Road Shows last year and said [that] instead of 250 odd questions to answer this year you have only got 90—but the 90, some of them had 16 answers.

Gold

¹⁰ Such responses likely indicate the lack of complete knowledge regarding the structure of the market to which EurepGAP ensures access. The only market demanding EurepGAP compliance demands this of all suppliers, thus limiting any potential for ZESPRI to distinguish its product in this regard.

Probably the disappointment was they [ZESPRI] can't go to our buyers and say, 'Well, you know the kiwifruit growers in New Zealand, at great expense to all, come up to EurepGAP. So, we are going to have to slam another dollar a tray on [your order].' They can't do that can they?

Organic

It's all covering the buck, I think. You're supposed to sign off this and you have a contractor on and you're supposed to take them around and show them any potential hazards ... you've got to be able to cite their health and safety policy and all sorts of driffle really... It just makes you feel like an idiot ...

Organic

Much as the EurepGAP audit is viewed by Green and Gold orchardists as adding little beyond greater detail to the KiwiGreen programme; it is perceived by some orchardists in the Organic panel as not contributing anything of consequence to the existing organic compliance criteria. In fact, the most common complaint with the new audit is that it requires them to duplicate documentation of many practices. In response, the Certified Organic Kiwifruit Growers' Association (COKA) is seeking to make the audits cross-compliant so that organic certification would essentially suffice for EurepGAP approval as well. Other Organic orchardists noted more specific issues associated with EurepGAP compliance which they felt were poorly matched their understandings of good orchard practice. As noted above, such orchardists believed that signage notifying visitors that they were entering a potentially dangerous site was counterproductive to their representation of organic practices as being safer and more environmentally friendly. Similarly, several disputed the need to treat the organic sprays as being of equivalent danger to the herbicides and insecticides used by their non-organic counterparts.

Taken as a whole, the negative perspectives of the EurepGAP audit expressed by orchardists indicate their dissatisfaction with the practice and implementation of the audit as opposed to a rejection of the practices it promotes. In attempting to gain the orchardists' unproblematic commitment to the EurepGAP audit, ZESPRI failed to secure their confidence due to the apparent lack of justification for the additional work it required. First – rather than being viewed as an unquestioned representation of good farming practice – EurepGAP was subject to challenge as a result of the perception that it was the product of foreign bureaucratic efforts under the influence of European retailers. This group, from the experience of the orchardists, was more interested in keeping kiwifruit prices low than in promoting good (let alone viable) practice. Second, many of the orchardists failed to recognise any positive feedback from their compliance. Financial rewards were not immediately evident given that everyone had to comply with the audit virtually eliminating the means of comparing returns. (A portion of the payment that the orchardists receive from ZESPRI is designated as the result of EurepGAP compliance. The relatively low amount, especially in comparison to incentives based on timing, dry matter and size, reduces its significance in the perspective of most orchardists.) In both of these aspects, the EurepGAP audit differs significantly from that initiated under the earlier KiwiGreen programme, which probably raised orchardists' expectations of the characteristics of an acceptable audit.

4.2.4 Altered relations within industry

Because ZESPRI is so closely associated with the implementation of the audit scheme, the organisation also becomes either an element of an orchardists' justification of compliance or a target of the orchardists' frustration with EurepGAP. Comments that attribute a significant proportion of the success of the New Zealand kiwifruit sector to the presence and actions of ZESPRI are common in the interviews. Among the orchardists expressing more positive opinions of the organisation's role, ZESPRI is recognised as holding the underlying

responsibility for the current position of New Zealand kiwifruit as the benchmark for quality in international markets. These orchardists also represent ZESPRI as a benefactor of the industry, using its market power and commercial acumen both to gain access to higher value markets and to defend orchardists' interest in regards to the extent and detail of regulation. For example, they are more likely to claim that EurepGAP auditing procedures have become less onerous over time thanks in large part to ZESPRI's interventions on their behalf. Even among those orchardists who perceive the audit regulations to be excessive, ZESPRI is recognised as the only means of negotiating the terms of the audit. Most of those who express the greatest support for the organisation are those who provide justifications of the audit that accept the pre-eminence of consumers' (or in this case retailers') definitions of quality that may extend to management practice.

ZESPRI are streamlining it a certain amount. There's certain sections they've obviously negotiated with EurepGAP – saying that this isn't applicable. So ZESPRI certainly are involved in trying to make it easier for us I think. They're the middle man if you like. They're the ones that are keeping the markets open into Europe and other places and so they obviously want to make it as user friendly for the grower as well.

Organic

Some of these constraints that EurepGAP puts on you, I feel they are probably over the top. But what can you do about them? Well you can only rely on ZESPRI and their people to ... bang away at the door and say: 'Well, you know we don't think this is right' and that is about all you can do isn't it? There is no use going marching down the main street alone with a rifle?

Green

Those orchardists who assume a more confrontational attitude toward the EurepGAP audit scheme, by contrast, are more likely to question ZESPRI's role in its implementation. For many of these orchardists, ZESPRI's association with the new audit indicates that the organisation has betrayed its role as a representative of the New Zealand producers. They claim that ZESPRI's actions and attitudes indicate that it is more interested in developing friendly relations with the European retailers than in supporting the interests of orchardists. Such claims are strengthened by the perception that the audit is more accurately viewed as a tool to protect the retailers than as a means to establish the relative quality of the New Zealand product. Such attitudes indicate that these orchardists do not share the same unquestioned acknowledgement of ZESPRI's importance to the kiwifruit sector expressed by many of their colleagues discussed above. As such, they are more likely to cultivate relationships with a packhouse, kiwifruit growers' groups or neighbours as the most important influence on their management practice.¹¹

It's the Europeans that control it. And it's just basically ZESPRI 'sucking up' to the Europeans. I think they have sucked up too much and now the expectations are too great. And that's going to piss the growers off, you know. ... So, I mean it does knock back the economics of it a bit, you know.

Gold

I am struggling to see what EurepGAP could add to the industry. It is purely a means of covering the supermarkets or the retailers for court cases and liable cases. And, if we want sell there, then this is a

¹¹ For further discussion of this situation, see Rosin, et al. (*in press*).

requirement. They are saying, 'You take the responsibility. You tell us you have done all these things [and] we will buy your product. That way we know that we won't be sued.'

Gold

For orchardists expressing either of the two positions with respect to ZESPRI noted here, the issue of the EurepGAP audit scheme reflects on their perceptions of the relative value of the organisation's role as a single-desk exporter. For those who support ZESPRI's actions in regard to the audit, EurepGAP represents a further necessary feature of successful marketing. Their compliance with the scheme is an accepted aspect of their participation in a financially rewarding sector the future security of which is underpinned by ZESPRI's capacity to exploit its single-desk export position. By contrast, those who fail to acknowledge any benefits associated with audit compliance are likely to perceive ZESPRI as an organisation that has lost touch with its orchardist constituency. These latter orchardists would argue that adoption and promotion of the EurepGAP audit by the New Zealand kiwifruit industry reflects the commercial and marketing interests of ZESPRI while imposing significant burdens on their orchard management. The response both to the EurepGAP audit and to ZESPRI's involvement in its implementation involve the individual orchardist's willingness to accept an external gaze on their production activities (largely involving less tangible aspects of quality) and differ in significant ways to their response to quality regulations more directly associated with the actual taste of their product as discussed below.

4.3 Reaction to dry matter incentive payments

In order to develop further understanding of the impact of the EurepGAP audit scheme on the New Zealand kiwifruit sector, we now draw comparisons with the orchardists' responses to a further ZESPRI initiative – the payment of premiums based on the dry matter content of harvested fruit. In contrast to the audit scheme, the Taste ZESPRI programme seeks to reward orchardists by offering premiums (maximum of 60% of fruit value for Gold, 50% for Green Organic and 40% for Green in 2007) based on the dry matter analysis of sampled fruit. This level of premium is justified by ZESPRI based on the association between higher dry matter and preferred taste profiles and, as such, represents a substantial portion of potential returns to producers. Because the structure of the reward system is fairly steep, the ability to produce high dry matter fruit – and consequently reap higher financial returns – has become an important element in the definition of good farming in the sector. Some farmers justify the practice precisely because they view it as a positive incentive to produce the best fruit possible. Much like the EurepGAP audit (and despite their long experience with similar payment programmes based on the size of fruit and the timing of harvest), however, the Taste ZESPRI programme has not met with universal acceptance among the orchardists. In fact, it can be considered a penalty by those whose orchards do not consistently achieve sufficiently high dry matter levels to benefit from the incentives.

The uneven response to Taste ZESPRI largely reflects the perception among many orchardists that the means of consistently achieving high dry matter are unknown as well as the assertions that dry matter was an insufficient metric of taste. In many of the interviews, for example, orchardists described counterintuitive situations in which similar conditions (two orchards on the same property, the same orchard over two years, etc.) did not result in equivalent dry matter production. Often, the achievement of high levels in the past season were attributed to luck with the hope that similar practices would prove successful in the future as well. Other orchardists, especially within the organic panel, claimed that other factors (including the health of the soil) affected taste and did not necessarily affect dry matter levels in a positive manner. The uncertainty surrounding the value of measuring dry matter led one orchardist to argue that ZESPRI was misguided in their emphasis on the premium and that the organisation was potentially exposing itself to disgruntled growers. Others,

however, viewed the unsettled nature of dry matter production as a challenge requiring their capacity as skilled craftspeople to solve. While not universally the case, the most vociferous complaints about the EurepGAP audit were often given by those most intrigued by the challenge of dry matter; and the most ardent opponents of dry matter premiums were more comfortable with audit compliance. These contrasts reflect the identities that the orchardists have assumed, varying from those who derive satisfaction from their ability to work with the vines to those who seek to demonstrate their business acumen.

Well I think that's all, that's just common sense. You know, we have to produce better tasting fruit. That's the way the industry should be going. [...] I think you've got to get away from the premium and just look at the industry. And, if we can't produce good tasting fruit, then we won't be able to sell it. It's the future of the industry.

Green

[Dry matter performance] is very variable. There's obviously a lot of trials being done, but there's a lot of variance in them from year to year. Blocks that might have shown good dry matter one year, may not show it the next year. Locally, on one of our blocks, there's some work being done now: irrigation trials; a lot of fertiliser work; canopy management. Because on one particular property, we've got a historically high dry matter block and a low dry matter block. One is on sand, one is on heavy soil. That's lot to do with it, we think. But, you know, need to quantify it.

Gold

If we grew the fruit in an air-conditioned controlled environment you may understand a little bit more. But when there's so many variables and nobody seems to really know what they're talking about, definitely... And, in fact, if it is shown to be application of compost tea increased the dry matter then compost tea might be a good business to buy into. And, for the grower, he's running around like a headless chook trying to decide which one is going to be beneficial to him and whether it's going to be continuous or whether there's short term benefits.

Organic

We understand the plants and how to work with the plants. The paperwork is so irrelevant to what we are doing out there. It is enjoyable out there, manipulating a plant to get the best of it. We produce very high dry matter fruit, and we think we have identified some issues that contribute to that. But, it has also brought up some other issues that the size profile is not perhaps as good as it should be. So we have got to try and balance those things up. And those are things that we enjoy putting our time and thought into. Not into filling in some stupid paperwork. So really what we are saying is that we are growers. That is where our expertise is, it is administrators that do paperwork, and we are growers.

Gold

5 Comparison of ARGOS panels

The perspectives on the EurepGAP audit and Taste ZESPRI programme examined in this report differ little among the three panels included in the ARGOS research programme for the kiwifruit sector (Organic, Green and Gold). Orchardists from each of the panels are as likely to accept as to contest both the imposition of the audit scheme and the emergence of dry matter premiums as an assessment of quality. The lack of association between an orchardist's panel membership and their response to these external determinants of appropriate orcharding practice suggests that an individual's choice of management system is not a factor in the relative acceptability of new metrics of 'good farming' in the kiwifruit sector. Given that both EurepGAP and Taste ZESPRI establish means of evaluating orchardists and their product that are uniform across the panels and that they pose similar challenges to achieving recognition, this situation is not unexpected. The interviews with the orchardists do, however, suggest that a variety of orchardist characteristics – including their occupational histories, their age, the length of involvement with a given orchard, etc. – offer more probable explanations for the diversity of response. The characterisation of orchardists on the basis of such alternative factors may prove of interest in future comparisons with the economic and environmental data being collected and analysed for the kiwifruit sector within ARGOS.

6 Conclusions: promoting retail/consumer driven quality standards

The management of an orchard and its impact on society and the environment are commonly attributed to the actions of an individual or a group of individuals. The freedom to engage in – let alone recognise – alternative practices is, however, affected by the environmental, social and economic contexts within which an individual is situated. In other words, an orchardist's capacity to act is subject to constraints.¹² As such, it is possible to distinguish among orchard management practices that are 'thinkable' and those that are 'unthinkable'. Thinkable practice involves readily identified alternatives that fall within acceptable parameters of good farming – although these may not be employed in an individual's strategic approach to management of the orchard. Unthinkable practice, by contrast, fails to be recognised by the orchardist due to its involving extreme contradictions with the individual's understanding of agroecosystem operation and the socio-economic parameters of production. This conceptualisation of the relative awareness of alternative practices provides an insightful perspective on the response of orchardists to the implementation of strategies intended to orient kiwifruit production to the demands and concerns of the fruit's consuming markets.

The intent of the second qualitative interview by the ARGOS project was to elicit participant representations of the constraints they recognise on their management practice. In each of the agricultural sectors that form part of the project, the participants recognised limitations on their capacity to act associated with their relationships with the respective industry. Most frequently in these instances, they identified the constraints of complying with emerging audit schemes. Whereas the majority of participants had become accustomed to stipulations on tangible qualities of the product sold to domestic industry, their ability to accept the regulation of on-farm management practice in order to assuage the social, environmental, and ethical concerns of consumers was less uniform. The foregoing analysis of the interactions between kiwifruit orchardists and ZESPRI (as represented by the orchardists) identifies several significant factors that contribute to the relative 'thinkability' of retailer driven changes in the regulation of acceptable practice and attempts to establish standardised measures that predict taste.

Our examination of the kiwifruit sector in this report identified the overwhelmingly positive assessment of the KiwiGreen programme that has regulated spray application and other orchard practices since the early 1990s. The favourable assessment of the programme appears to reflect the orchardists' response to what is perceived as a local initiative designed to extract the sector from an externally driven crisis situated in the demand response of export markets. The benefits of the programme have been reinforced by the reinvigoration of the market, the persistent introduction of production improving technologies and the growing public recognition of ecological benefits associated with reduced spray applications. As such, while initially exposing the orchardists to the uncertainty of reduced pest control measures, the management practices imposed under KiwiGreen readily conformed to the established parameters of "good farming" in the sector. In other words, rather than diametrically contradicting the productivity emphasis used as a metric to benchmark an orchardist's value, KiwiGreen introduced a new suite of technologies for pursuing similar

¹²As noted in the ARGOS social rationale (Campbell, et al. 2004:): "A key dimension to sociological analysis is *capacity to act*. Once researchers have gained an idea of how research participants view, understand and interpret the world, it is a mistake to think that individuals do therefore go forth and act according to their views (known in the trade as the Cartesian view: *I think therefore I act*). Rather, individuals are always faced by numerous structures, conventions (including institutions, accepted practices, etc.), processes and discourses that impinge upon their capacity to act. Human action, and important outcomes of trying to change human's behaviour, can only be explained through a strange combination of motivation to act and capacity to act.

goals. Once these technologies were proven, they ultimately became 'thinkable' for the majority of orchardists. Eventually, the conceptualisation of quality that included residue-free fruit was normalised within the industry as a claim distinguishing New Zealand kiwifruit from that of its international competitors. As a result of the regulations associated with KiwiGreen, the orchardists were able to apply a test of value in which they were necessarily better than their counterparts in Chile, Europe or the United States.

The emergence of the EurepGAP audit scheme and the perception that it represents an externally defined set of best practices appear, however, to be a greater threat to orchardists' justifications of their identities. In comparison to the regulation of practice associated with the KiwiGreen programme, the new audit scheme alters the identity of orcharding – and thereby limits its acceptability among the orchardists – in at least three distinct ways: a) it increasingly shifts the basis for assessing 'good farming' from work accomplished in the field to that in the office; b) it involves a level of detail and hassles of documentation that place barriers on the flexibility of the orchardists as decision makers; and c) it implies a certain level of distrust in the orchardists' application of good or appropriate management practice. As a result, it is possible to differentiate among orchardists on the basis of the extent to which they have incorporated the intensified auditing of EurepGAP within their conceptions of good farming. Many have adopted the valuation – both of themselves and of their product – established by the audit on the basis of its relative desirability to the consumer (via retailer regulation). For these orchardists, the process of marketing kiwifruit involves an acceptable subsumption of their capacity to distinguish appropriate management practice to the perceptions of those with less actual experience in orchard management. An equally large group (at least at the time of the interviews) challenged the validity and relevance of the valuation of orchardist and product associated with a process which they perceived to diminish their capacity both to define good practice and to achieve recognition for the craftsmanship embodied in their existing practice. This suggests that, in order for orchardists to accept the impositions of audit schemes more generally, they must be capable of incorporating arguments that place value in the consumers' expression of preferred practices and subsume their valued independence to external oversight.

Additional insight to the potential of retailer driven regulation of orchard management practice is provided by the orchardists' response to the Taste ZESPRI programme, which rewards high dry matter content through price premiums. Because the premiums represent up to 60% of the value (in the case of Gold kiwifruit) of the harvested product, they also establish a means of assessing the relative value of the orchardist. In comparison to KiwiGreen and EurepGAP, however, the justification of an orchardist's value is based on product qualities as opposed to the producer's compliance with proscribed practices. As a result, we identified a very distinct pattern of response among the orchardists who either approved of dry matter premiums as a means to express their craftsmanship and capacity to manage the vines or complained about the lack of proven techniques for achieving the premiums. In other words, the latter group was more likely to define good farming as the adherence to a set of proven practices with reliable results as opposed to the development of the knowledge and skill of the individual orchardist through their increasing experience with the vines. Moreover, those who most fervently embraced achieving higher dry matter content as a challenge often voiced the strongest complaints regarding the extent of oversight ceded to auditors under the EurepGAP scheme.

The comparison of the relative acceptability of the EurepGAP audit with that of the Taste ZESPRI programme suggests that at least two responses to retailer driven quality standards are represented among New Zealand kiwifruit growers, each of which is grounded in an equally justifiable definition of good farming. It is further evident that an orchardist's position relative to such definitions has greater impact on their response to the introduction of new standards than does their membership in any one of the ARGOS panels (Organic, Green or Gold). As noted above, the fact that an individual's voiced support for (or challenge against) the features and conditions of either EurepGAP or Taste ZESPRI would not allow one to

predict which management system that orchardist employed. The extent to which this finding contradicts that of the companion report for the sheep/beef sector (in which Organic and Integrated farmers exhibited a greater predisposition toward accepting the oversight of audits) may reflect the fact that both EurepGAP and Taste ZESPRI (in contrast to the sheep/beef quality assurance programmes) are considered mandatory and apply uniformly standards of practice and quality assessment. As such, neither the existence of retailer driven quality standards in the kiwifruit sector nor the orchardists' response to these audits (while potentially providing the mechanism for improved environmental practice) offers sufficient evidence for assessing the comparative sustainability of different management systems.

The situation in the New Zealand kiwifruit sector demonstrates many of the reasons why audit schemes have become a favoured means by which the retail sector in agri-food systems reduce the uncertainties surrounding the products that they source. Audits provide a surrogate form of establishing trust in global markets by documenting the use of preferred practices and are likely to remain a persistent feature of agri-food, and specifically kiwifruit, production in New Zealand. Thus, developing the orchardists' capacities to incorporate external oversight within their conceptions of good farming is of vital importance to the continued viability of the sector. The comparisons in this report of two systems that establish criteria for kiwifruit production (EurepGAP and Taste ZESPRI) indicate several features of more successful and inclusive approaches to the implementation of audit schemes. First, orchardists expressed the desire to maintain some input to the negotiation of audit standards, or at least acceptable justifications of the impositions that the audits placed on their practice. Orchardists are more likely to accept the oversight of audit schemes if the proscribed practices conform to existing perceptions of appropriate management. To the extent that some orchardists believe this has failed to occur, it is also possible to identify the emergence of their discontent with the role of ZESPRI as both an entity expected to represent orchardists' interests and as the police which enforces compliance with external standards. Second, orchardists are more likely to incorporate audited practices if they are able to recognise the association between targeted outcomes and the regulated practice. Therefore, especially in the case of credence attributes, both audit schemes and payment incentives are more likely to be adopted to the extent that each is associated with a demonstrable effect. In order for such regulations of management to become an integral part of 'good farming', the resultant 'effect' must also become an active element of the sense of pride farmers associate with the production of high quality kiwifruit. This becomes more difficult, of course, with regard to such practices as labour issues and vehicle maintenance for which the quality of the end product is less tangible. Here a concerted effort is required in order to translate the concerns of consumers into attributes of farming that reinforce the orchardists' capacity to apply a favourable self-assessment. Finally, resistance to externally imposed regulations can be mitigated through the documentation of the reward realised by its adoption. This reward can be in form of increased monetary returns or greater social status from the perspective of the farmer. Current ZESPRI reporting on returns in the sector provide a good foundation for establishing potential financial rewards, although the impact of these could be augmented if estimates of the value of non-compliant fruit were also provided. The conveyance of social status, on the other hand, can be reinforced through the development of award programmes, recognising more committed response to the demands.

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